20060501.ba v03_n918.bam.20060501

>From ???@??? Mon May 1 00:01:46 2006 -0500
Date: Mon, 1 May 2006 00:00:13 CDT
From: Old Tube Radios <boatanchors@theporch.com>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: BOATANCHORS digest 3918
Message-Id: <20060501050015.499041B7F85@srvr1.theporch.com>

BOATANCHORS Digest 3918

Topics covered in this issue include:

1) Mechanical puzzles
   by "Bill Hawkins" <bill@iaxs.net>
2) Re: Mechanical puzzles
   by "Mark J. Blair, NF6X" <nf6x@nf6x.net>
3) RE: URM-25 dial lamps
   by "Art Lebermann" <artleb@earthlink.net>
4) color code for black beauties?
   by "James C. Garland" <4cx250b@muohio.edu>
5) Re: color code for black beauties?
   by "Marty Reynolds' debris field" <polepeeg@aa4rm.ba-watch.org>
6) Ameco 6 & 2 vfo fs/ft
   by "Marty Reynolds' debris field" <polepeeg@aa4rm.ba-watch.org>
7) Mechanical Marvel
   by "Herbert M. Rosenthal" <herbrose@comcast.net>
8) RE: Mechanical puzzles
   by "Ed Zeranski" <ezeran@ezeran.cnc.net>
9) Re: Mechanical puzzles
   by Gary Woods <garygarlic@earthlink.net>
10) Re: Mechanical puzzles
   by "Arden Allen" <gumbear@pacbell.net>
11) RE: Mechanical puzzles
   by "Ed Zeranski" <ezeran@ezeran.cnc.net>
12) Fw: Mechanical puzzles
   by =?iso-8859-1?Q?Andr=E9_Guibert?= <aguibert@sympatico.ca>
13) Re: Mechanical puzzles
   by Tom Norris <r390a@bellsouth.net>
14) Regency TR-6 AM radio
   by "James C. Garland" <4cx250b@muohio.edu>
15) Re: black beauties
   by Ralph Parker <rparker@dccnet.com>
16) Re: black beauties
   by "ChasW3KC" <w3kc@verizon.net>
17) Re: Mechanical Marvel
   by john <johnmb@nc.rr.com>

From: "Bill Hawkins" <bill@iaxs.net>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: Mechanical puzzles
Date: Sat, 29 Apr 2006 22:56:32 -0500
Message-ID: <001801c66c0a$1131ffc0$0500a8c0@darius.domain.actdsltmp>
MIME-Version: 1.0
Content-Type: text/plain;
charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

We tend to think of TX/RX as marvels of electronics. But there were some marvels of mechanical engineering required to make some of them work. Setting aside the R-390 class sets with their gears for linear tuning, and the auto tuning R-391 and ART-13, what's your nomination for a mechanical puzzle? As in something that made disassembly either improbable or impossible?

The topic comes to mind because I am trying to repair the sound card for an old Kodak 275 moviedeck projector, for a neighbor. Piece o' cake, I thought. A month later and three manuals without quite the right information, I finally almost separated the bottom half from the top half of the case. I say almost because a weird dingus, possibly a position sensor, is cemented under an aluminum rail on the top half of the case. The rail is attached by melting plastic support posts to hold it in place. Two relatively short lengths of twisted wire go from the dingus to the stuff attached to the lower half of the case, with no plugs or soldering points visible. One of the twisted pair go to a ferrite sphere about 0.5" diameter that is cemented to a holder. I don't recall ever seeing a ferrite sphere before.

Manuals for the Kodak 445 series projectors seem to be for the cost-reduced version of the 275. There the top half separates after a magic spring wire is deflected, allowing the supply reel to be removed. No such wire exists in the 275, but there had to be a way to remove the supply reel. It appears that my neighbor will be disappointed and I will be out $70 for useless manuals. Unless someone here has been there before me?

Regards,
Bill Hawkins

Message-ID: <4454510C.4060807@nf6x.net>
Date: Sat, 29 Apr 2006 22:54:20 -0700
From: "Mark J. Blair, NF6X" <nf6x@nf6x.net>
MIME-Version: 1.0
To: Old Tube Radios <boatanchors@theporch.com>
Subject: Re: Mechanical puzzles

Content-Type: text/plain; charset=ISO-8859-1
Content-Transfer-Encoding: 7bit

Bill Hawkins wrote:
> We tend to think of TX/RX as marvels of electronics. But there were some marvels of mechanical engineering required to make some of them work. Setting aside the R-390 class sets with their gears for linear tuning, and the auto tuning R-391 and ART-13, what's your nomination for a mechanical puzzle? As in something that made disassembly either improbable or impossible?

This one isn't necessarily too hard to take apart, but I think it deserves mention in this category: The antenna tuning circuit in the RT-66, -67 and -68 HF/VHF FM transceivers.

These sets have separate knobs for MC and KC. The MC knob has fixed detents at each 1MC increment, and the KC knob has detents at each 100KC point. The KC detents are eccentric cylinders which may be individually adjusted to set them at the 100KC points, and they me be disengaged for continuous tuning.

The MC mechanism has a helical cam wrapped around it shaft which adjusts the antenna tuning capacitor via a pawl that rides on the cam. The cam is made out of a series of links, one per MC, mounted on threaded shafts. As the knob is turned to each 1MC position, the corresponding threaded shaft can be turned by pushing in then turning a captive, spring-loaded driver from the front panel. Thus, the pawl position (and corresponding antenna tuning cap setting) can be adjusted for that frequency, and the helical cam links then linearly interpolate between adjacent MC positions.

When the KC knob is turned, a linkage rotates the entire MC tuning assembly, shaft, helical cam and all, by one MC detent interval over the full range of the KC knob. The antenna tuning cap and its pawl remain in the same place. Thus, as you tune over a 1MC range with the KC knob, the antenna tuning is interpolated between the settings for that MC position and the next one.

Screwy, huh? I don't know if this will make any sense without pictures. It's an awfully fancy and complicated system for what should be such a simple radio.

--
Mark J. Blair, NF6X <nf6x@nf6x.net>
Web page: http://www.nf6x.net/
GnuPG public key available from my web page.

Message-ID: <410-22006403081139835@earthlink.net>
From: "Art Lebermann" <artleb@earthlink.net>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: RE: URM-25 dial lamps
Date: Sun, 30 Apr 2006 01:11:39 -0700
MIME-Version: 1.0
Content-type: text/plain; charset=US-ASCII

John....

The #323 lamps (GE323) are available from several aircraft supply companies. They are used in aircraft instrument panels. I found them listed for $5.95 each, from AeroParts & Supply, in Dallas TX.

Check their web site at: www.2aps.com/lamps.htm

Art Lebermann
W6REQ

> [Original Message]
> From: John Gibson <gibsonj@mindspring.com>
> To: Old Tube Radios <boatanchors@theporch.com>
> Date: 4/29/2006 9:37:47 AM
> Subject: URM-25 dial lamps
>
> The modulation on my URM-25 also failed due to a leaky cap. I replaced
> all the paper caps with polyester types and the sig gen has worked great
> ever since.
> I did have one non functional failure though. The last dial light finally
> burnt out. I could not find any replacement # 323 bulbs so ended up by
> leaving the burnt out bulbs in position but grafted a pair of #328 minature
> bulbs into position with their filaments just above those of the #323 bulbs,
> and as close to the front surface of the dial cover panel as possible.
> I put a strip of insulation tape on the dial cover to avoid shorts to
> the bulbs and changed the series resistors to 5.1 ohms. Check that you are
> not squeezing down on the bulbs when replacing the front cover.
> The replacement bulbs are floating but held in position by short lengths
> of stiff bus wire.
> John.

Message-Id: <7.0.1.0.2.20060430073921.02269b38@muohio.edu>

Date: Sun, 30 Apr 2006 07:40:47 -0400
To: Old Tube Radios <boatanchors@theporch.com>
From: "James C. Garland" <4cx250b@muohio.edu>
Subject: color code for black beauties?
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"; format=flowed

Can someone share with me the color code for black beauty caps? I
got a request for same, but all my docs are packed awy for the next few months.
Tnx,
Jim W8ZR

****
W8ZR Amateur Radio Website: www.w8zr.net
****

Message-ID: <1313.24.99.47.18.1146402194.squirrel@fracas.netboobie.org>
Date: Sun, 30 Apr 2006 09:03:14 -0400 (EDT)
Subject: Re: color code for black beauties?
From: "Marty Reynolds' debris field" <polepeeg@aa4rm.ba-watch.org>
To: Old Tube Radios <boatanchors@theporch.com>
Cc: "Old Tube Radios" <boatanchors@theporch.com>
MIME-Version: 1.0
Content-Type: text/plain;charset=iso-8859-1
Content-Transfer-Encoding: 8bit

> Can someone share with me the color code for black beauty caps?

same as resistors but in MMFs (er, pfs). left band coefficient of 10-s
& middle of 1-s. Rt. is ten to that power.

eg., brown-black-yellow is 10X10000 pfs. IE, .1 mfd

There's a 4th band that's 100s of volts. Like yellow is 400V

Question for home study:

   What's yellow-purple-orange-red mean on what Al Parker calls a BBOD?

Correct answer will be rewarded with fotocopy of either:

   - a windows MCSE diploma (with radar endorsement)

   - cairo barber college diploma

  'rm

Message-ID: <1314.24.99.47.18.1146402387.squirrel@fracas.netboobie.org>
Date: Sun, 30 Apr 2006 09:06:27 -0400 (EDT)
Subject: Ameco 6 & 2 vfo fs/ft
From: "Marty Reynolds' debris field" <polepeeg@aa4rm.ba-watch.org>
To: Old Tube Radios <boatanchors@theporch.com>
MIME-Version: 1.0
Content-Type: text/plain;charset=iso-8859-1
Content-Transfer-Encoding: 8bit

New condition

I scotched it's destruction @ a pal's to advertise it here 1st

Needed exchange is another little cabinet & a few bucks

Perhaps a better posting wud be the Ameco collector's int'l web site

'rm

Message-ID: <4454D2A3.6090209@comcast.net>
Date: Sun, 30 Apr 2006 09:07:15 -0600
From: "Herbert M. Rosenthal" <herbrose@comcast.net>
MIME-Version: 1.0
To: Old Tube Radios <boatanchors@theporch.com>
Subject: Mechanical Marvel
Content-Type: text/plain; charset=us-ascii; format=flowed
Content-Transfer-Encoding: 7bit

Perhaps the simplest mechanism associated with radio gear that I've ever seen is the Geneva movement underneath the Johnson Navigator I built from kit in about 1955.

As I remember, there were two shafts at 90 degrees-one to a knob on the panel (below the chassis) and the other to a vertically mounted rotary switch above the chassis. The item connected to the switch was a block of steel or aluminum, about 1" square and 1/2" thick, with a 1/4" shaft hold and lock screws. The block had grooves at 45 degrees to the large surface of the block.

There was a pin on a disc, off center from the shaft of the knob.

When the knob was rotated, it engaged the pin within the slot, and as the knob rotated, it moved the rotary switch to another position, either clockwise or counterclockwise.

I guess Johnson thought this would be less expensive than a standard 90 degree drive.

I found two URLs that explain the Geneva Movement better than I have.

http://kmoddl.library.cornell.edu/tutorials/10/

http://kmoddl.library.cornell.edu/model.php?m=481

As I also remember it was a real bear to position the block so the switch would move to it's index indents. But once done, the switch was free of the mechanism to seek its indent.

Anyone else go through this?

Herb W5AN

From: "Ed Zeranski" <ezeran@ezeran.cnc.net>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: RE: Mechanical puzzles
Date: Sun, 30 Apr 2006 08:31:46 -0700
Message-ID: <EMEPKDEJDNHEMLEAHGKHEEOACJAA.ezeran@ezeran.cnc.net>
MIME-Version: 1.0
Content-Type: text/plain;
     charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Subject: Re: Mechanical puzzles
Bill Hawkins wrote:
> We tend to think of TX/RX as marvels of electronics. But there were
> some marvels of mechanical engineering required to make some of them
> work.

Collins 'AutoTune' produced some Gyro Gearloose/Rube Goldberg contraptions too........with motors. The first time a friend powered his 'new' ARC-2 all the cats scattered for their bomb shelters. It seemed like most of what I worked on in the '60s Navy had some type of Collins auto tune.

EdZ KG6UTS

From: Gary Woods <garygarlic@earthlink.net>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: Re: Mechanical puzzles
Date: Sun, 30 Apr 2006 11:40:55 -0400

Message-ID: <sgm9525r8c28gcu8dfa5jpjo37h4v5hi3h@4ax.com>
MIME-Version: 1.0
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

On Sun, 30 Apr 2006 08:31:46 -0700, you wrote:

>Collins 'AutoTune' produced some Gyro Gearloose/Rube Goldberg contraptions
>too........with motors.

And its descendent: The weird auto tune synth in the ARC-38. Gyro Gearloose meets Rube Goldberg in the sub-cellar of a swiss watchmaker after too many cold 6159s!

Gary Woods AKA K2AHC- PGP key on request, or at home.earthlink.net/~garygarlic
Zone 5/6 in upstate New York, 1420' elevation. NY WO G

Message-ID: <003701c66c6c$0d029a60$41e47443@KB6NAX>
From: "Arden Allen" <gumbear@pacbell.net>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: Re: Mechanical puzzles
Date: Sun, 30 Apr 2006 08:37:50 -0700
MIME-Version: 1.0
Content-Type: text/plain;
charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Oooohh! As one of the committed mechanically declined I'll pass on this one. My head starts to hurt when I try to think of some of the gizmos that have left me a quivering mess. Give me an electron to chase....

Arden Allen
KB6NAX

From: "Ed Zeranski" <ezeran@ezeran.cnc.net>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: RE: Mechanical puzzles
Date: Sun, 30 Apr 2006 09:00:06 -0700
Message-ID: <EMEPKDEJDNHEMLEAHGKHCEOCCJAA.ezeran@ezeran.cnc.net>
MIME-Version: 1.0
Content-Type: text/plain;
charset="US-ASCII"
Content-Transfer-Encoding: 7bit

And its descendent: The weird auto tune synth in the ARC-38. Gyro Gearloose meets Rube Goldberg in the sub-cellar of a swiss watchmaker after too many cold 6159s!

In the early '70s I spent 2 years working 2nd shift doing depot overhauls on ARC-27s etc. SEVERAL months were spent on the mechanical(maniacal?)drive bench rebuilding the darn things. Spring tension, clutch loading, gear lash and torque aren't what you usually think of in transmitter or receiver tuning.

EdZ

Message-ID: <001701c66c70$10ac44a0$0402a8c0@anikast.ca>
From: =?iso-8859-1?Q?Andr=E9_Guibert?= <aguibert@sympatico.ca>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: Fw: Mechanical puzzles
Date: Sun, 30 Apr 2006 12:06:35 -0400
MIME-Version: 1.0
Content-Type: text/plain;
     charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

The English version is the flick mechanism on the WS19
Andre

Mime-Version: 1.0 (Apple Message framework v746.2)
Content-Type: text/plain; charset=US-ASCII; delsp=yes; format=flowed
Message-Id: <F836DE3D-A3BD-49F8-9E3B-1CF36E603A40@bellsouth.net>
Content-Transfer-Encoding: 7bit
From: Tom Norris <r390a@bellsouth.net>
Subject: Re: Mechanical puzzles
Date: Sun, 30 Apr 2006 11:18:43 -0500
To: Old Tube Radios <boatanchors@theporch.com>

On Apr 30, 2006, at 10:31 AM, Ed Zeranski wrote:
>
>   Collins 'AutoTune' produced some Gyro Gearloose/Rube Goldberg
> contraptions
> too........with motors.

I suppose anything with with a Collins Autotune system is a candidate. My favorite is the T-195 transmitter. The channel "memories" use the Collins Autopositioner drum and pawl system that automatically sets the position of the PTO, similar to that used the ART-13 and any of the other "do not loosen nuts or channel positions will be lost" radios. The PA tune and load and the antenna match are servo controlled systems that use discriminator based servo servo amps to detect impedance null. Think most tube systems of the day used that for tune and load -- 618S, ARC-38, etc. and antenna matchers to this day use that sort of load detector.

It's scion the GRC-106 is another nifty system with its system of turrets for the tube-based RF section of the exciter and the first stage of the PA. Sadly the PA isn't automatic like it's "dad". Interestingly enough *it's* successor the GRC-193 DOES use an automatic tune/load for the PA tubes.... But these are new things, even if they *do* use tubes.

I agree with Mark on the RT-66/67/68. Both mechanically and electrically complex. Sort of like going from Long Beach to LA via Omaha.

Message-Id: <7.0.1.0.2.20060430150404.022869b0@muohio.edu>
Date: Sun, 30 Apr 2006 15:10:43 -0400
To: Old Tube Radios <boatanchors@theporch.com>
From: "James C. Garland" <4cx250b@muohio.edu>
Subject: Regency TR-6 AM radio
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"; format=flowed

Hi Gang,
This is a bit off topic, but I thought a few of you might be interested in seeing some pix of a Regency TR-6 AM radio, circa 1957. I bought it a couple of weeks ago to pair with my Regency ATC-1 converter (the first ham transistor product, dating from 1956). The TR-6 uses 5 transistors and uses printed circuit board construction. What is interesting to me is how fast the technology was developing at the time. The Regency TR-1 "pocket radio" (the world's first production transistor radio) was introduced in October 1954. By the time the TR-6 came out, the industry had standardized on a 9V battery and the performance was up to the level of the typical 5-tube AM radios of the era. The TR-6 is quite rare, and I'd neve seen one before. I've not been able to track down a circuit diagram and, other than a sentence or two, there's nothing about it on the Web.

Here's the URL to my photos:
http://www.w8zr.com/vintage/receivers/RegencyTR6.html

73,

Jim Garland W8ZR

Message-Id: <3.0.6.32.20060430135423.00ec9ac8@pop3.dccnet.com>
Date: Sun, 30 Apr 2006 13:54:23 -0700
To: Old Tube Radios <boatanchors@theporch.com>
From: Ralph Parker <rparker@dccnet.com>
Subject: Re: black beauties
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"

Has anyone seen the "LES PAUL .022 400V BUMBLE BEE NEW OLD STOCK
CAPACITOR"s on our favourite auction site?

They sure look like BBODs to me, but he's asking $200.00 each!!!
Am I missing something, or is he?
Gotta go check my junk box.

VE7XF

Date: Sun, 30 Apr 2006 17:10:26 -0400
From: "ChasW3KC" <w3kc@verizon.net>
Subject: Re: black beauties
To: Old Tube Radios <boatanchors@theporch.com>
Message-id: <003d01c66c9a$80f2ff90$2f01a8c0@chas>
MIME-version: 1.0
Content-type: text/plain; format=flowed; charset=iso-8859-1; reply-type=original
Content-transfer-encoding: 7bit

Wow, Les Paul capacitors. Nice, but they won't hold up if
you play bluegrass.
;>)
73 Chas W3KC

> Has anyone seen the "LES PAUL .022 400V BUMBLE BEE NEW OLD
> STOCK
> CAPACITOR"s on our favourite auction site?

Message-Id: <6.2.1.2.2.20060430180304.024ee4e0@pop-server.nc.rr.com>
Date: Sun, 30 Apr 2006 18:06:25 -0400
To: Old Tube Radios <boatanchors@theporch.com>
From: john <johnmb@nc.rr.com>
Subject: Re: Mechanical Marvel
Mime-Version: 1.0
Content-Type: text/plain; charset=us-ascii; format=flowed

This is a neat item... common to the Rangers as well too.

Other mechanical marvels that come to mind:

Apache/Mohawk/Marauder drum-bandswitch linkages. What a contraption!

The loading cap on a HarveyWells T90 (I think)..each 360 degree rotation of the variable LOAD cap added an additional parallelled cap to the variable.
Ingenious!
Looked like a spoked wheel with no rim .

John K5MO

At 11:07 AM 4/30/2006, Herbert M. Rosenthal wrote:
>Perhaps the simplest mechanism associated with radio gear that I've ever
>seen is the Geneva movement underneath the Johnson Navigator I built from
>kit in about 1955.
>
>As I remember, there were two shafts at 90 degrees-one to a knob on the
>panel (below the chassis) and the other to a vertically mounted rotary
>switch above the chassis. The item connected to the switch was a block of
>steel or aluminum, about 1" square and 1/2" thick, with a 1/4" shaft hold
>and lock screws. The block had grooves at 45 degrees to the large surface
>of the block.
>
>There was a pin on a disc, off center from the shaft of the knob.
>
>When the knob was rotated, it engaged the pin within the slot, and as the
>knob rotated, it moved the rotary switch to another position, either
>clockwise or counterclockwise.
>
>I guess Johnson thought this would be less expensive than a standard 90
>degree drive.
>
>I found two URLs that explain the Geneva Movement better than I have.
>
>http://kmoddl.library.cornell.edu/tutorials/10/
>
>http://kmoddl.library.cornell.edu/model.php?m=481
>
>As I also remember it was a real bear to position the block so the switch
>would move to it's index indents. But once done, the switch was free of
>the mechanism to seek its indent.
>
>Anyone else go through this?
>
>Herb W5AN

>
>
>--
>No virus found in this incoming message.
>Checked by AVG Free Edition.
>Version: 7.1.385 / Virus Database: 268.5.1/327 - Release Date: 4/28/2006

--
No virus found in this outgoing message.
Checked by AVG Free Edition.
Version: 7.1.385 / Virus Database: 268.5.1/327 - Release Date: 4/28/2006

End of BOATANCHORS Digest 3918
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